

Application No. 09/909,971  
Amendment under 37 CFR 1.111  
Reply to Office Action dated July 9, 2004  
October 12, 2004

AMENDMENT TO THE SPECIFICATION

Please substitute the title to read as follows:

-- SIGNAL PROCESSING UNIT AND SIGNAL PROCESSING METHOD  
INCLUDING USING AN EXPONENT PART AND A MANTISSA PART FOR POWER  
GENERATION --

Please substitute the paragraph beginning at page 1, line 9  
and ending at page 1, line 17 to read as follows:

-- In Japanese Unexamined Patent Publication ~~Heisei~~ No. 11-  
288365, the present inventors have described the structure of an  
exponential calculation device. The device, when the input value  
 $x$  is an integer, calculates the value of  $x^{(4/3)}$ , for example,  
with an economical circuit structure and at high speed. In that  
proposal, the range of variation of the input value  $x$  is, for  
example, greater than or equal to 0 and less than 8192. For this  
type of input value  $x$ , the value of  $x^{(4/3)}$  is calculated as  
follows. --

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Please substitute the paragraph beginning at page 3, line 14 and ending at page 4, line 7 to read as follows:

-- The objective of the present invention is to provide a signal processing unit which calculates exponentials with an economical circuit structure, at high speed, and with good calculation accuracy, even when the input value is floating point data; and to provide a signal processing method for doing this, and a program product for ensuring that this signal processing method should be executed by a computer. For example, calculation of a floating point value  $v$  raised to the power 0.75 or to the power 1 (which amounts to converting it into an integer) is frequently required in AAC encoding according to the MPEG2 or the MPEG4 audio encoding method. ~~And it~~ It is the objective of the present invention to provide a signal processing unit, signal processing method, and a program product embodying the method, which can implement such calculations with an economical circuit structure and moreover at high speed.--

Please substitute the paragraph beginning at page 13, line 5 and ending at page 13, line 9 to read as follows:

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-- For example, for the address  $i$ , it ~~it~~ would also be acceptable to store the value  $2^{((i-127)*0.75)}$ . In this case, the second conversion section 23 would be constituted as a table in which, for the address  $j$ , the value  $(1.0+j/(1<<K))^{0.75}$  is stored. This type of tables are shown in Figs. 7 and 8. --